

**REMARKS**

Claims 1-8 are pending in this application.

**I. The Claims Define Patentable Subject Matter**

The Office Action rejects claims 1-8 under 35 U.S.C §103(a) over U.S. Patent Application Publication No. 2003/0050596 to Alexandre et al. ("Alexandre") in view of U.S. Patent No. 6,004,287 to Loomis et al. ("Loomis"). The rejection is respectfully traversed.

Alexandre and Loomis either alone or in combination fail to disclose and would not have rendered obvious, the combination of features of independent claim 1, including "the lateral wall of the bore comprises at least one protuberance reducing the cross section relative to the upstream opening of the bore."

The Office Action agrees that Alexandre fails to disclose the claimed protuberance at the claimed location. However, the Office Action asserts that it would have been obvious to modify Alexandre in view of Loomis to result in all features of claim 1. Applicants respectfully disagree. In particular, Applicants respectfully submit that even if one skilled in the art applied Loomis' teachings to Alexandre, all features of Applicants' claim 1 would not have resulted.

The needleless syringe of claim 1 comprises a drive means and an assembly of an upstream obturator, a cylindrical reservoir, and a downstream obturator. The claimed assembly encloses an active principle, while the drive means displaces the assembly to expel the active principle from the needleless syringe. The needleless syringe also comprises a receptacle with a bore "in which the downstream obturator...lodges when it is brought into contact with the bottom...of the bore of said receptacle by operation of the drive means." A lateral wall of the bore of claim 1 includes at least one protuberance.

For a needleless syringe lacking a protuberance in a bore that receives the downstream obturator, there is nothing to prevent the downstream obturator from rebounding after

impacting the bottom of the bore (see Applicants' specification, page 2, lines 13-21). Thus, the at least one protuberance of claim 1 is implemented to prevent such a rebound (see Applicants' specification, page 2, line 23 through page 3, line 2).

Loomis discloses a pressure chamber 86, a burst membrane 90, a bore 76 and an annular coupler 64 that are located upstream of a carrier membrane 92, which generate a high-pressure propulsion force (see Loomis, Figs. 1, 3 and 5 and col. 5, lines 4-47). Loomis also discloses that the carrier membrane 92 and nozzle outlet plate 48 (which includes through passages 56 and recess 60) store and inject the active principle (see Loomis, Fig. 1 and col. 4, lines 43-50 and col. 5, lines 26-47). Thus, the elements upstream of the carrier membrane 92 of Loomis generate a force that acts on the elements downstream of, and including, the carrier membrane 92 to expel the active principle. In other words, the elements upstream of carrier membrane 92 of Loomis drive the elements downstream of the carrier membrane 92 (and including the carrier membrane 92) to expel the active principle.

The Office Action asserts that the coupler of Loomis corresponds with the claimed bore (although not explicitly stated, it appears that the Office Action is referring to coupler 64 of Loomis). However, the coupler 64 and associated alleged protrusions of Loomis are located upstream of the carrier membrane 92 and are thus located in the portion of the apparatus of Loomis that drives the elements downstream of, and including, the carrier membrane 92 to expel the active principle. In Alexandre, the elements upstream of upstream obturator 4 drive the elements downstream of, and including, upstream obturator 4 to expel the active principle.

Accordingly, if Alexandre were to be modified to include the coupler 64 and associated protrusions of Loomis, the coupler 64 and associated protrusions would be located upstream of the upstream obturator 4 because that is the portion of the needleless syringe of Alexandre that drives the elements downstream of, and including, upstream obturator 4 to

expel the active principle. Because the coupler 64 and associated protuberances would be located upstream of upstream obturator 4, the downstream obturator 5 of the syringe resulting from the combined teachings of Alexandre and Loomis would still rebound after impacting the bottom of the bore (see Alexandre, Fig. 1).

Therefore, even when Alexandre is modified by Loomis, the combination of features recited in claim 1 would not result because the combination of Alexandre and Loomis would fail to include the claimed protuberance at the claimed location. The Office Action relies on impermissible hindsight, rather than the teachings of the applied references, to conclude that all features of claim 1 would have been obvious.

Claims 2-8 depend from independent claim 1. Therefore, those claims are patentable over Alexandre and Loomis at least for their dependence from claim 1 as well as for the additional features those claims recite.

Withdrawal of the rejection is respectfully requested.

## **II. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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